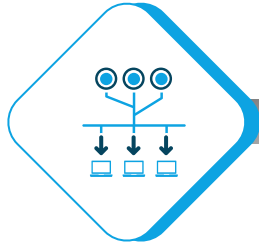




Multi-Protocol Label Switching (MPLS)

What is Multi-Protocol Label Switching (MPLS)?



BSNL's MPLS is a high-performance networking technique that routes data **based on short labels instead of long network addresses**, ensuring secure, full-duplex site-to-site connectivity across a **private, internet-isolated network**



This type of routing reduces latency and ensures **data takes the most efficient path available**, resulting in **symmetrical bandwidth** and seamless inter-branch communication



BSNL's MPLS enables **traffic engineering (full-mesh topologies)** - network managers can set up **optimal paths for different types of traffic**



BSNL's MPLS can **prioritize traffic classes** enabling priority handling of time-sensitive applications, resulting in **lower jitter and smoother performance**

Why does your business need Multi-Protocol Label Switching (MPLS)? (1/2)

MPLS for Business

1



Secure & Predictable WAN Connectivity

- Unlike the public internet, your data travels on a private, dedicated network, enhancing security and control.
- It ensures predictable and reliable performance for critical applications like VoIP, video calls, and cloud collaboration.

2



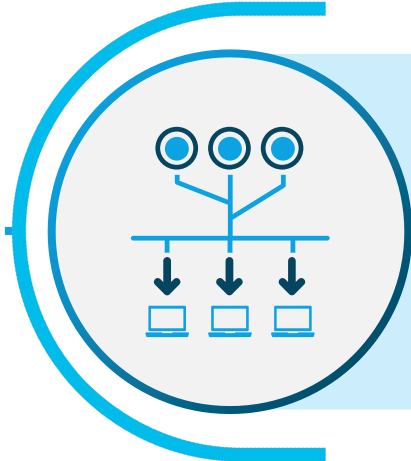
Better Performance for Real-Time Apps

- It intelligently prioritizes traffic and ensures optimal routing, guaranteeing smooth operation for real-time applications.
- This delivers consistent, high-quality performance for all real-time applications and smooth cloud communication.

Why does your business need Multi-Protocol Label Switching (MPLS)? (2/2)

MPLS for Business

3



Scalable & Centrally Manageable Networks

- Enables scalable any-to-any connectivity; new sites connect instantly.
- Supports data, voice, and video convergence on a single network.

4



Guaranteed Uptime & SLA-Backed Resiliency

- Minimizes outages and speeds incident response for smooth operations.
- Instantly reroutes traffic upon path failure, requiring no manual intervention.

Why BSNL MPLS?

123

India's **first & largest MPLS-VPN network** with option to extend the same VRF globally



All **value-added features** like Layer 2/3 VPN, Full Mesh Topology, etc. **included or deeply discounted**

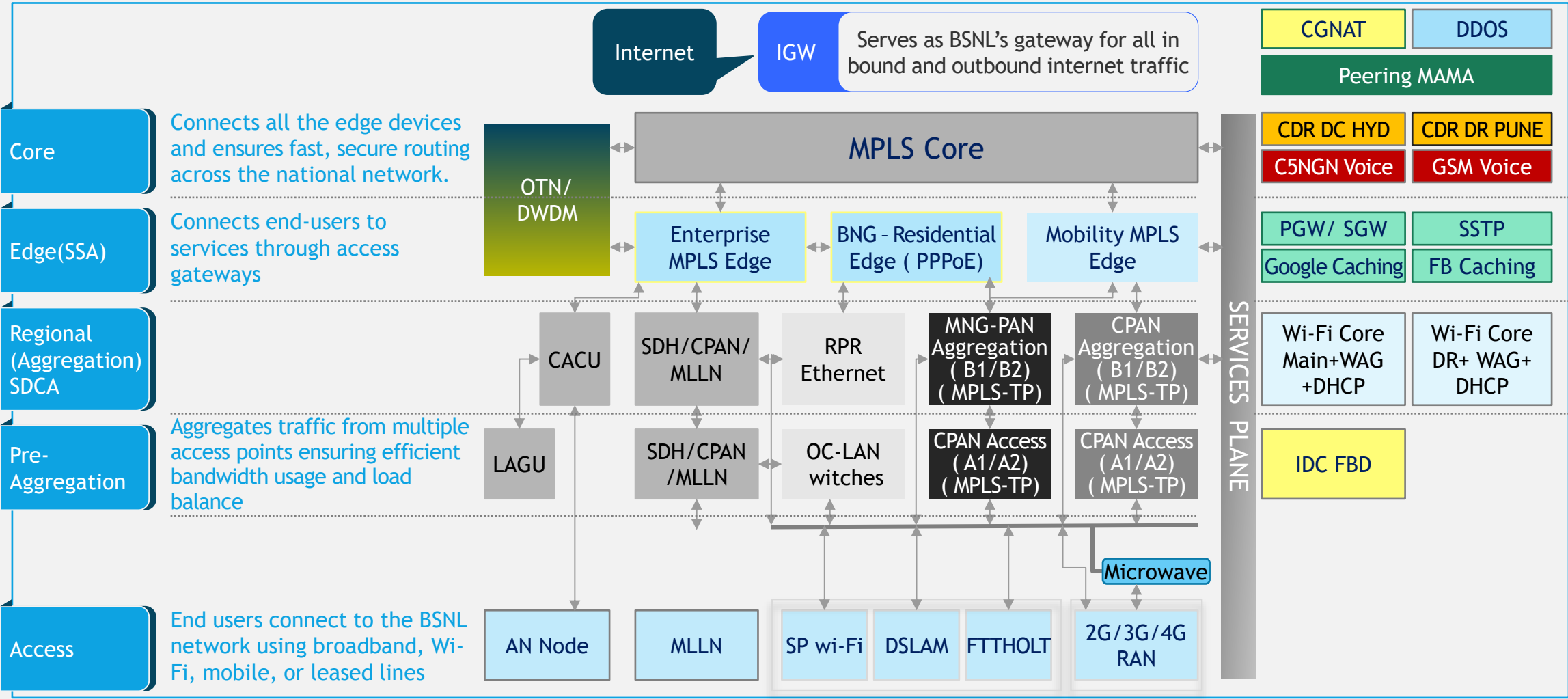


Single-point-of-contact for technical and commercial needs, backed by an **ISO 9001:2015-certified NOC**



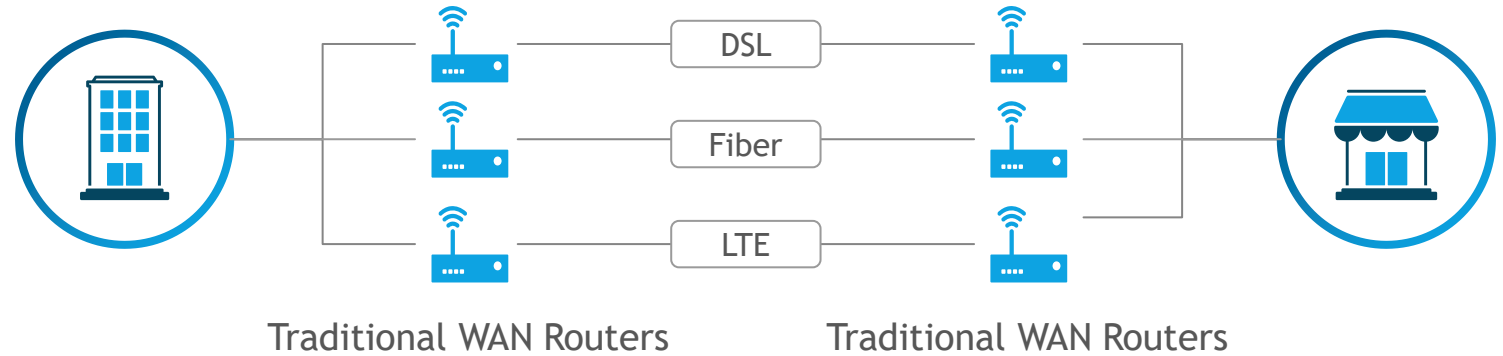
Round-the-clock MPLS cloud monitoring with guaranteed uptime and rapid automated failover

BSNL MPLS has a robust Network Architecture to boost connectivity



Services on IP MPLS Cloud

MPLS architecture



- ◆ MPLS (multiprotocol label switching): networking protocol to improve performance and efficiency of data transmission in a WAN
- ◆ Operates between Layer 2 (data link layer) and Layer 3 (network layer) of the OSI model
- ◆ MPLS routes traffic using “labels” that it assigns to a packet and controls the forwarding WAN path based on the shortest available
- ◆ A MPLS network works along **pre-defined network paths** using **specialized hardware routers** to be configured with predefined routing table

Diverse Service Offerings:

Supports multiplay, FTTH, BSNL Intranet, various VPNs (L2/L3, BBVPN, Global), NGN, GSM services, WiMAX, and IP Multicast



Robust VPN Solutions:

Provides ILL, Anti DDoS Protection, Hub&Spoke, Customer Portal, and QoS features alongside core VPN functionalities



24x7 Monitoring & Rapid Response:

MPLS NOC in Bangalore offers continuous network monitoring and an expert BSNL team ensures swift resolution of hardware, cloud, and backbone link issues



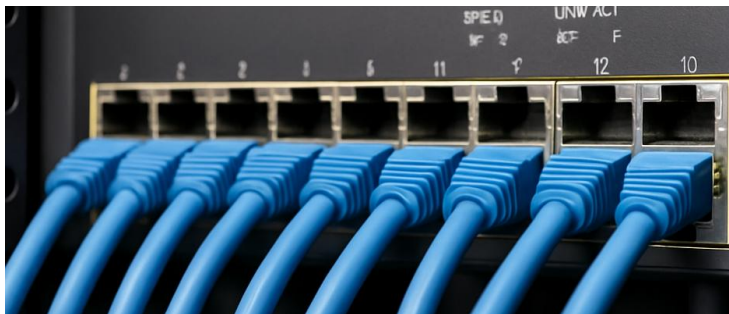
Proactive Management & Dedicated Team:

Active management of network congestion, packet drops, and latency, backed by highly qualified BSNL staff and centralized AMC/OEM support from Bangalore



Services on IP MPLS Cloud

BSNL offers MPLS services in three categories based on committed bandwidth



MPLS Topaz

Standard, best effort QoS with cost optimized connectivity

25% CIR guaranteed during peak hours, with 100% bandwidth available at all other times.

Speeds ranging from 64 kbps up to 100 Gbps

Greater than 99% SLA uptime & 24x7 ISO 9001 NOC support



MPLS Emerald

Balanced QoS with traffic prioritization

50% CIR guaranteed during peak hours, with 100% bandwidth available at all other times.

Same bandwidth range with higher guaranteed share

SLA-backed performance & proactive monitoring



MPLS Gold

Premium QoS with ultra-low latency & jitter

100% of committed bandwidth is assured at all times.

Full line-rate performance guaranteed

Premium SLAs, rapid failover & global VRF option